Short Memoirs *for the* Natural Experimental Hiſtory *of* Mineral Waters: *by the Honourable* Robert Boyle, Fellow *of the* Royal Society. London. 168$^{4}_{5}$; Octavo.

THE Author divides this Tract into ſix Sections; the firſt whereof is only introductory, wherein he tells us, that although the beſt warrant we can have for the uſe of any of theſe waters, is the long and ſufficient Experience of their good and bad effects, yet ſince the advice of Phyſicians to their Patients in this caſe is a thing of ſo great conſequence, the circumſtances ſo many and ſo neceſſary to be conſidered, and ſince the Curioſity of men hath been little greater, then to inquire only what Colour the *Mineral water* will ſtrike with Galls or Oaken leaves, and what Kind and Quantity of Salt will remain after evaporation; upon theſe and ſuch like conſiderations our *Honourable Author* hath thought fit to communicate theſe his *Memoirs* in order to a more full and Methodicall *Hiſtory* of *Mineral waters*; to the drawing up of which, he thinks theſe 3 following Obſervations neceſſary.

Firſt that a man ought to take notice of thoſe particulars that relate to it, whilſt tis yet under ground, or in it's native receptacles.

Secondly to examine the properties and other qualities of it, when 'tis drawn up by men at the ſpring head or other receptacle.

Thirdly he is to conſider the operation and Effects of it upon Humane bodies whether ſick or ſound, &c.

To the firſt of theſe he has ſubjoyn'd a ſet of Titles for the firſt part of the propoſed work. He hath given likewiſe a Scheme of Titles for the ſecond part: But becauſe the ſecond part is that which he mainly deſigned, he referr'd to it two other Sections *viz.* the fourth and fifth. In the firſt of which he gives Experimental Remarks upon the way of Examining *Mineral waters* by the help of Galls; the uſe of which he approves of rather in powder then infuſion; but, for the more effectual courſe of either way, gives this caution, that the *Tincture* be not long drawn, nor the Galls themſelves grown ſtale. He cannot by any means think Galls (or the Infuſion thereof,) to be of that uſe and certainty, that it is Vugarly preſum'd to have, in as much as it only diſcovers a liquor to be or not to be, either of a *Vitriolate* or *Ferruginous* nature; for there are divers metalline Ores and other Mineral bodies which, not participating of Iron, will not by this means be diſcover d, and yet may at the ſame time ſtrongly impregnate the water propoſed; the decoction of *Arſenic* for example, changes no more upon Galls, than would common water. Moreover unleſs Iron be the only predominant Mineral in the *Vitriolated* water, the infuſion of Galls does not anſwer it, for upon a ſtrong Solution of *Roman Vitriol* (where Copper is the only, or at leaſt the predominant metal) the infuſion, or Tincture of Galls afforded neither a black nor blackiſh colour, only a thick and muddy one, that was not ſo much as purpliſh. And though the *Author* be, for certain reaſons unwilling to ſet down a way to diſcover in a trice both theſe *Vitriols* without any liquor or tangible body, yet he has been ſo candid as to ſubjoyn as a *ſuccedaneum*, the way of making a liquor that will preſently turn black with a ſolution of *Martial* or *Cupreous Vitriol.*

In his fifth Section (conſiſting of Annotations and Notes on other Articles of the ſame ſecond part) he obſerves, and brings his Ocular demonſtration for the life

& motion of thoſe creatures found in water wherein pepper has been infus'd. He obſerves likewiſe that the freſhneſs and quickneſs of ſuch *Ferruginous waters* as are lighter then common water, are much loſt in the removal. Neither will the waters themſelves have thoſe Effects they would at the ſpring head, or before their removal. He diſlikes the diviſion of *Mineral waters* into *Acidulæ* & *Thermæ*, having by ſeveral tryalls found, that there is not a manifeſt Acidity in thoſe waters that are not Sulphureous or hot; ſuppoſing alſo, that they may in all probability have ſpent the Acidity they had, upon the Iron Ore, which they diſſolv'd in their paſſages; neither does he think any of our purgative waters contain a Salt that belongs to any one known ſort of Salts; but is either of a ſort for which we have yet no name, or elſe is of a compounded Nature, ſince two bodies, neither of which is *Cathartick*, may by a change of texture compoſe a third body briskly purgative; of which he has given an Example; he adds that (as far as he has obſerv'd,) thoſe *Ferruginous waters*, that are not heavier then common water, and in moſt drinkers prove but *Diuretick*, afford very little *Caput mortuum*, or dry ſubſtance, upon the total evaporation of their liquor; whereas Mineral waters that are purging, and manifeſtly more ponderous in *ſpecie* then common water, leave a conſiderable Quantity of Reſidence. ex. gr. A pound of *Barnet* water (which is purgative,) yielded one dram of white powder. A pound of *Tunbridge* water yielded *Cap: mort.* about gr. i. Twenty five ounces of *German ſpaw* water gave but---- gr. iſſ. Neither need ſo ſmall a Quantity ſeem inconſiderable, ſince upon tryall one part of *Marcaſite* did communicate a Tincture to 61440 parts of the infuſion of Galls; and upon Computation one grain of *Vitriolate* ſubſtance might impregnate 6000 times its weight of common water, ſo as to make it fit to produce with Galls a purple colour. To all which laſtly is ſubjoyn'd the ſixth Section, which the *Author* himſelf tells us, conſiſts only of a ſet of Articles referrable to the medicinal uſe of Mineral waters.

ERRATA.

Pag. 1053. lin. 32. for *fierry* read *fiery*. lin. penult. for *pap.* read *pag.* pag. 1055. lin. 35. read [Apr. 23. *cap.* 2.] pag. 1056, lin. 23. read [acquaints us.] pag. 1060. lin. 16, after *Rome* add [*To which add that Joachimus Fortius (vid. Joach. Fortii Experiment : Lib.) & Jacobus Weckerus (vid. Illius de Secretis Lib.* 3.*cap.* 2.) *both affirm upon their own Experiment and knowledge that it may be formed into the likeneſs of a Wiek, that will adminiſter to the flame and not be waſted.*]

Printed at the Theater *in* Oxford, *for* Sam.
Smith *at the Prince's Arms in Paul's Church-*
yard London; *and* Hen. Clements
Book-ſeller in Oxford.

FINIS.